

Community News

Students get hands-on experience

Deer Park class designs, builds own space station

Taking inspiration from the International Space Station project, a group of Fairmont Junior High eighth-grade students just completed a six-week project that sent their collective imagination shooting into orbit.

The idea seemed simple enough. Students would design and build their own mock space station. The students would be involved in areas ranging from public relations to scientific experiments, all relating to the space station project. This would be no simple task for the class or its teacher.

After attending a Friends and Family Workshop for Educators at JSC last year, teacher Jim Glock contacted NASA employees, with whom he discussed his plans for the activity. Glock said he wanted to show students how important the space program is to the country and how space history affects their daily lives in many ways.

"I also wanted them to see how real the space station is, how it is an international venture and how soon it will begin," he said. "It will be at least a seven-year overall construction project that these students can relate to during their high school years."

The students, while following the construction of the International Space Station, likely will remember their own space station project as well. Students in Glock's class were divided into teams, each responsible for a different area of the project. They included a public relations team, a scientific team, an astronaut team and a manufacturing-safety team.

Glock said involving students in the various aspects of a large-scale project meant that students had to use many skills they had learned in other classes. All the teams used their scientific knowledge for the experiments the scientific team planned, and mathematics was relied upon heavily by the manufacturing-safety team and astronaut team. The public relations team, with the assistance of Steve Nesbitt, from JSC's Public Affairs Office, honed its writing skills to

compose press releases. Astronaut team members also trained with physical education teacher Tommy Graham and were given a simple physical by nurse Shirley Nash.

Students also had a chance to do some hands-on testing of several science concepts. During the extravehicular activity, Glock's students performed several experiments. Students performed a heart-rate experiment, demonstrated the El Niño effect with hot- and cold-water-filled balloons and determined how to make an object neutrally buoyant. All of the experiments were intended to build upon the information the students were learning in their regular classes and bring the space program closer.

Several NASA employees appeared as guest speakers and hosted field trips during which the students viewed the Super Guppy and other NASA aircraft. Nigel Packham, crew commander for the fourth phase of the Advanced Life Support Program Lunar-Mars Life Support Test Project, spoke to students about his experiences during a 90-day chamber test.

John Louis and his staff toured students through the Sonny Carter Training Facility's Neutral Buoyancy Laboratory. Norm Chaffee, from JSC's Education and Information Services Branch, arranged tours of the NBL, the Super Guppy and other NASA aircraft.

At the project's end, the student astronaut team assembled its mock space station in its own weightless environment training facility—the school's swimming pool. Astronaut team members had completed scuba instruction, thanks to the help of Dolphin Divers of Texas. As classmates and others watched, the team pieced together the space station.

Glock said the response from students was tremendous.

"I really think that the entire class will remember this project for a long time," Glock said. "I know that the students have a better understanding of what it takes to live and work in space."



Above: Astronaut team members deploy a solar panel during their project to design and build a model space station in their own weightless environment training facility—the school's swimming pool. Left: A white board shows the students' flight plan for the assembly of Space Station Viking, deployment of the "solar panels" and various experiments they conducted during the extravehicular activity. Below: NASA's Carl Koontz explains the flight profile of the KC-135 zero-gravity simulation aircraft to students from Jim Glock's class during their tour of Ellington Field.

Photos courtesy Jim Glock



Long-lived JSC carpool saves cash, resources

Can you believe? A carpool from the Meyerland area in west Houston to JSC has been going strong since 1969. That's 28 years of continuous operation.

The original five JSC employees who started the carpool; Mel Kapell, Bob Patterson, Al Feiveson, Bob Cohen and Steve Jacobs primarily were interested in saving money. They also hoped to reduce the monotony and stress of the daily 65-mile round trip. A third objective was environmental.

The group reaped the benefits of carpooling during the Arab oil embargo of the mid 1970s. Rising gas prices, long lines at the gas pumps and reserved parking spaces at JSC for carpools fortified their determination to keep the carpool going. Although two members have retired, the rest are steadfast in their goal to save the environment, their nerves and, most of all, their money.

The bottom line is 1.4 million driving miles saved. Assuming \$1 and 15 miles for a gallon of gas, \$1 per quart of oil and 5 quarts of oil per 5,000 miles, \$100 and 35,000 miles for a set of tires, and \$15,000 and 100,000 miles for a car, that adds up to \$320,400 saved.

Add to that the more intangible benefits to our local environment and our health. Using figures for an average single-occupancy passenger car, the Meyerland carpool has avoided the generation of 784 tons of carbon dioxide which is the leading contributor to global warming; 31.5 tons of carbon monoxide; 4 tons of organic compounds, a contributor to smog; and 2.5 tons of nitrogen oxides, another smog element.

There is currently no system in place at JSC to match up potential car-poolers. Three or more employees working the same hours on-site may sign up for a reserved parking space for their carpool at the Security Customer Service Desk at Building 110.

For more details, call the JSC Security Branch at x37200.

JSC Safety Alert

Playing Sports During Lunchtime

What Happened

January 30, 1998, 11:55 a.m.
"I was hit by a soccer ball on my leg as I was walking from the cafeteria. I was not seriously hurt, but the potential exists for a serious injury at this site."

Results of the Investigation

This happened in the grassy area between Bldgs. 8 and 11. This is a high-traffic area during lunchtime and is not a good place to play soccer

What You Can Do

If you play sports at lunchtime, such as soccer or volleyball, please be considerate of non-participants in the area. Someone could easily be injured by a stray ball. To avoid injuring non-participants:

- Avoid high-traffic areas, such as those around the cafeterias.
- Stay as far away from sidewalks as possible.
- Be especially careful during strong winds.
- Watch for pedestrians in the area.

<http://www4.jsc.nasa.gov/safety/alert/>



JSC Photo by Leslie Eaton

GALLERIA GARDENING—Public Affairs Specialist Doug Peterson explains JSC efforts to use plants in recycling systems and as a source of food for future space travelers at the Galleria. JSC scientists Fred Smith, Yael Vodovotz and Dan Barta showcased samples of Mars and lunar soil simulants during "Primavera at the Galleria" on April 10 as a community outreach project.